

Status Of Birds In The Heronries Of Kannur District, Kerala

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Abstract

Population of waterbirds breeding in Kannur District, Kerala was studied from 30 July, 2013, to 4 Aug 2013. A total of 30 heronries consisting of 1730 nests of nine species of colonial nesters (Little Cormorant *Phalacrocorax niger*, Indian Shag *Phalacrocorax fuscicollis*, Oriental Darter *Anhinga melanogaster*, Black-crowned Night-heron *Nycticorax nycticorax*, Indian Pond Heron *Ardeola grayii*, Little Egret *Egretta garzetta*, Median Egret *Egretta intermedia*, Grey Heron *Ardea cinerea* and Purple Heron *Ardea purpurea* were recorded. Ten heronry sites reported earlier were not used by birds presently and four new sites were recorded. There was 66% decline in the overall nesting birds population when compared to the year 2011.

Introduction

The term “heronry” refers traditionally to a nesting congregation of colonial aquatic birds belonging to the family Ardeidae which comprises of herons and egrets (Ali, 1996). However, nowadays, heronries are considered as group-nesting of colonial water birds of the orders Ciconiformes, Pelecaniformes and Suliformes which comprises of herons, egrets, storks, pelicans, ibis, darter and cormorants. Heronries may consist of different species nesting in a same area/tree (mixed heronry) or only a single species. These piscivorous birds are one of the top predators in the aquatic food chain. Monitoring their population can indicate the health of the aquatic ecosystem, fresh water as well as brackish water.

Counting of colonial nests can be regarded as an effective and accurate way to determine the breeding population of water birds. Data on heronries of Kerala has been compiled by Subramanya (2005). Sashikumar and Jayarajan (2008), surveyed heronries of North Kerala in the year 2007 and 2008. The latest survey was done in 2011 in north Kerala (Sashikumar *et al.*, 2011).

Study area

Kannur district (earlier Cannanore) lies along the Arabian sea coast of Kerala, and experience humid tropical monsoon climate. 15 species of colonial water birds are known to be breeding in Kerala and in north Kerala, the highest number of heronries (28) and number of nests (3,917) were recorded in Kannur district (Sashikumar *et al.*, 2011).

Methodology

Bird population (excluding juveniles) was assessed using nest count in colonies (Sutherland, 2006) in the nesting areas. The count was carried out for five days from 30 July 2013 to 4 Aug 2013, during the peak of breeding season (July-August) in the region. Survey area was selected from published data on nesting locations in the study area. In addition to the old nesting sites, several other possible nesting sites also were surveyed so that data from the earlier surveys could be compared to assess the population trend. In the survey, the information such as the species of the nesting bird, number of nests of each species, number of the nesting trees, species of the nesting trees, latitude and longitude of the location using Global Positioning System (GPS) etc. were recorded. The bird species were identified using binoculars (8x30, Crown) and standard field guide (Ali, 2003). The population of bird species was estimated directly from the count and compared with earlier data.

Results

A total of 30 heronries consisting of 1730 nests of nine species of birds belonging to three families (Anhingidae, Phalacrocoracidae and Ardeidae) were observed during the study period (Table 1). Indian Pond

Heron was the highest in abundance (1068 nests), followed by Little Cormorant (385), Black-crowned Night-heron (149), Median Egret (86), Indian Shag (22), Little Egret (13), Darter (4), Grey Heron (2) and Purple Heron. All the known heronries from Kannur district from published data - Subramanya (2005), Sashikumar and Jayarajan (2007 and 2008) and Sashikumar *et al.* (2011) – were visited during the survey. Ten heronries reported earlier in the coastal and midland regions viz. Chittariparamba, Vattipram Sarambi, Thazhe Chovva, Edakkad, Meethale Pedika, Mahe Church, Cherukunu, Pamburuthi, Ayyapan Thodu and Chundangapoyil were not active during the present survey (Fig. 1- sites 31 to 41). The location of the heronries including past records and present locations in Kannur district are shown in Fig. 1. One heronry site (Naduthuruthi - an island in Mahe River) was not surveyed due to lack of access.

A list of nest-tree species is given in Table-2. A total of 22 species of trees were recorded; 55% of the nests were found on Rain Trees (*Samanea saman*) along the roads. Other major species included Copper Pod (*Peltophorum pterocarpum*), Peepal (*Ficus religiosa*), Coconut (*Cocos nucifera*) and Mango (*Mangifera indica*) trees constituting 12%, 10%, 5% and 4% respectively. Mangrove species in which heronries were seen consisted of short (5m), densely clustered trees. The commonly seen mangroves were *Bruguiera cylindrica*, *Acanthus ilicifolius*, *Aegiceras corniculata*, *Kandelia candel* and *Rhizophora mucronata*.

Discussion

Decline in the number nesting pairs

The heronries have not been monitored every year in Kannur and adjoining areas. On comparison of the present survey with published literature, it was seen that the number of the nests of colonial waterbirds has decreased in number (Table-3). There is about 66% and 20% of decline in total number of nests when compared to the 2011 survey (Sashikumar *et al.*, 2011) and the 2007 survey (Sashikumar and Jayarajan, 2008) respectively. Among the different species, the nests of cormorants (Little Cormorant and Shag), Indian Pond Heron and Black-crowned Night-heron declined about 72%, 38% and 77% respectively. In eight years, from 2004 to 2011, there was increasing trend in the population of cormorants, as per published records (Subramanya, 2005, Sashikumar and Jayarajan, 2007 and 2008 and Sashikumar *et al.*, 2011). On the contrary, during the present survey there was a decline of 72% in the population of these species. The ten heronry sites in which nesting of birds were not observed were reported to have an aggregate of 724 nests in the previous survey (Sashikumar *et al.*, 2011). The lower number of nests could be due to the fact that the birds may have nested outside the study area during the present breeding season. However, literature suggests that waterbirds nest in specific sites and they have strong fidelity to nest in the same locations year after year (King, 1983, McNeil and Leger, 1987). Hence, we fear that there is an actual decline in the overall nesting pairs of the birds in Kannur district.

Among the different heronry locations, Pamburuthi heronry with four nesting species and 1500 birds was one of the top ten heronries of Kerala (Subramanya, 2005); but this heronry was found abandoned recently, probably due to human intervention and felling of nesting trees (Sashikumar & Jayarajan, 2007). A Rain Tree near the Mahe Church was found to be lodging 60 nests of both Pond Herons and Little Cormorants in the previous survey (Sashikumar, 2011); but not even a single nest was observed during the present study at the site. The reason for desertion of this site was unknown. At the Caltex bus stop, Kannur town (Fig. 1, 26), cutting down of trees for widening the road has resulted in decline in the number of nests. Thus the number of birds could have declined either due to human disturbance, loss of nesting trees or unknown reasons.

Variation in peak nesting period

In Kutukkimotta – Kanjirode area, less number of nests was observed when compared to the previous survey and the birds were found to be nesting late, (31 July 2013) but in an adjacent area (Chalode, 4 km away) the nests were found to have fledglings. This shows that even in the adjacent areas, egg-laying was not synchronous. Throughout the survey, uneven nesting stages were observed among the various heronries, indicating variability in peak nesting period at each site. Differences in the nestling stages might also occur because of difference in the age class of breeding birds, experienced old birds tend to lay eggs first and young ones start breeding later in the season (McNeil and Leger 1987).

Heronries in the islets

Water level was high in the Valapattanam River due to heavy monsoons and this made nest count difficult in

Naniyoor and Valapattanam heronries. Here, the nests were counted from both banks using binoculars, away from the islets. Naniyoor and Valapattanam are the most important heronries in Kannur with maximum number of breeding species. The larger colony size with higher number of nesting birds appears to be purely a function of age, largely dependent on the quality of protection that the nesting sites enjoy (Subramanya 1996). Location of these sites, islets in the river, offers safety from anthropogenic disturbances. A Purple Heron with nest material in the beak was found in Naniyoor mangroves indicating that this species may be nesting inside mangroves. 27 Asian Openbills *Anastomus oscitans* were found in mangroves of Naniyoor showing nesting behavior like breaking twigs and arranging in a place, but no nesting was observed later.

New heronries

In addition to the old nesting sites, new nesting locations such as Ayikara, Kanjirode (Mayil–Kannur road junction), Vattapoyil and Mathukothhad had Pond heron and Little Cormorants breeding. A few nests of Pond Heron were located in Chalad and Arayalthara. Given adequate protection, over the years, even a small heronry can grow in size, both with respect to the number of nesting species and birds (Subramanya, 1996).

During the survey period nesting of Little Grebe *Tachybaptus ruficollis* was observed in a marshy area near Eddakad Railway station. A pair of White-breasted Waterhen *Amaurornis phoenicurus* with two chicks was observed in Muzhapilangad.

Threats

The droppings of the nesting birds, fish falling below while the adult birds feed the young and rotting dead nestlings fallen below from the nests are the major issues affecting the general public. These issues makes the heronries in towns objectionable resulting in the cutting down of branches or the whole trees by the local people. In Sivapuram, the heronry located on trees over an autorikshaw stand drew public concern due to cutting down of tree branches by the autorikshaw drivers. But in some places, people were found to tolerate these birds in their premises. The heronry in Lakshipuram Temple compound was one of such cases. Cutting down of trees for development activities also caused threat to heronry birds. In the Caltex Junction, Kannur felling of trees for widening the road resulted in decline of number of nesting birds. Hunting and egg collection were also causes of concern, as interaction with the local people near to Valapattanam heronry revealed.

Table.1: Breeding birds

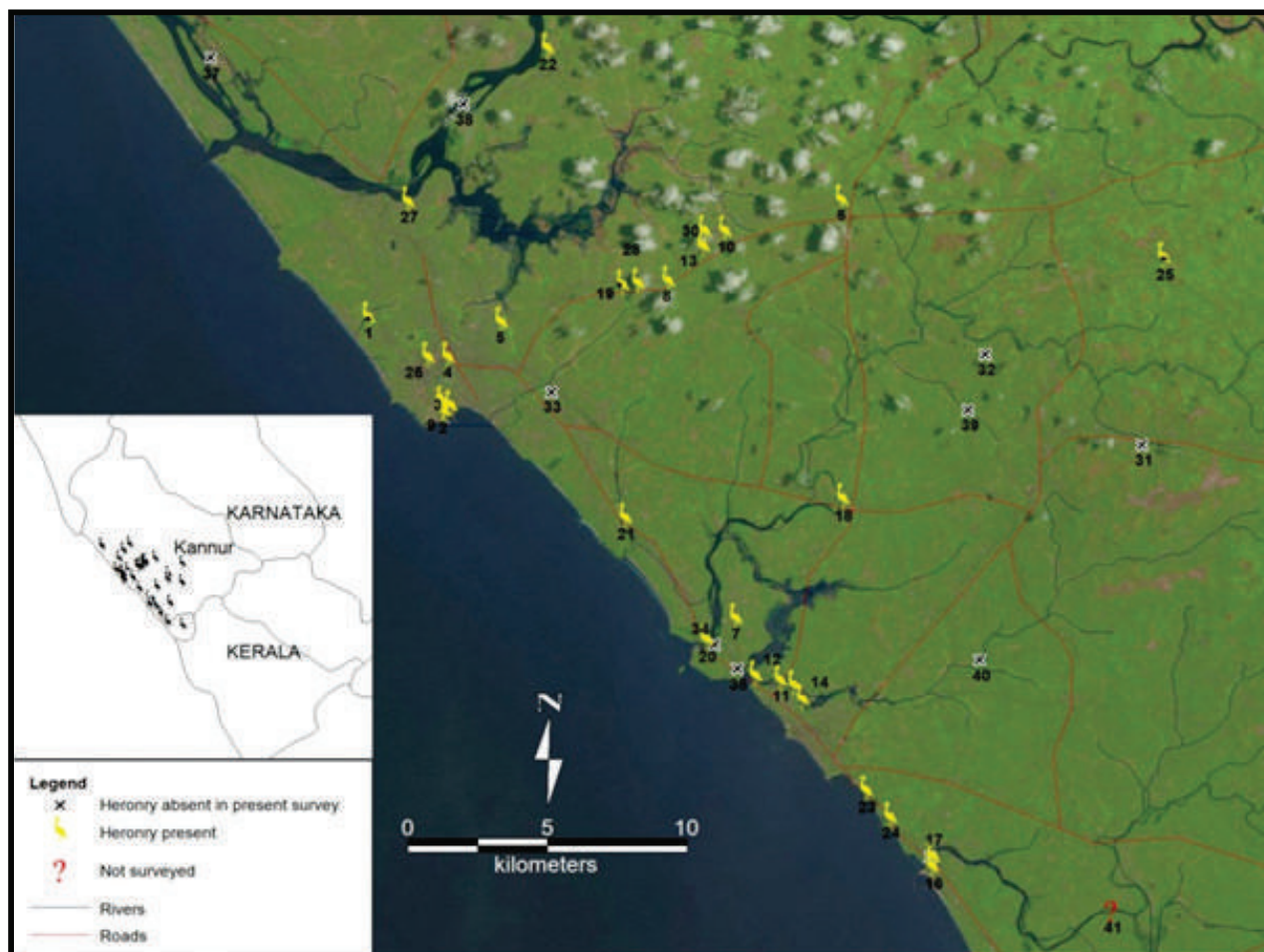
No.	Family	Scientific name	Common name	No. of nests
1	Phalacrocoracidae	<i>Phalacrocorax niger</i>	Little Cormorant	385
2		<i>Phalacrocorax fuscicollis</i>	Indian Shag	22
3	Anhingidae	<i>Anhinga melanogaster</i>	Darter	4
4	Ardeidae	<i>Egretta garzetta</i>	Little Egret	13
5		<i>Egretta intermedia</i>	Medium Egret	86
6		<i>Nycticorax nycticorax</i>	Black-crowned Night-heron	149
7		<i>Ardeola grayii</i>	Indian Pond Heron	1068
8		<i>Ardea purpurea</i>	Purple Heron	1
9		<i>Ardea cinerea</i>	Grey Heron	2
				1730

Table.2: Nest Trees

Tree species	Scientific name	No of trees
1. Badam	<i>Terminalia catappa</i>	2
2. Coconut	<i>Cocosnucifera</i>	15
3. Copper Pod	<i>Peltophorum pterocarpum</i>	5
4. Indian Banyan	<i>Ficus bengalensis</i>	1
5. Jack Tree (Plavu)	<i>Artocarpus heterophyllus</i>	1
6. Mango	<i>Mangifera indica</i>	8
7. Gulmohar	<i>Delonix regia</i>	3
8. Amla (Nelli)	<i>Phyllanthus emblica</i>	1
9. Peepal	<i>Ficus religiosa</i>	5
10. Aranamaram	<i>Polyalthia longifolia</i>	2
11. Portia Tree (Poovarasu)	<i>Thespesia populnea</i>	1
12. Rain Tree (Mazhamaram)	<i>Samanea saman</i>	47
13. Gliricida (Sheemakonna)	<i>Gliricidia sepium</i>	2
14. Mahogany	<i>Swietenia mahagoni</i>	1
15. Charcoal Tree	<i>Trema orientalis</i>	1
16. Tamarind (PuliMaram)	<i>Tamarindus indica</i>	2
17. Indian Kino tree	<i>Pterocarmus marsupium</i>	1
18. Upilla/Vatta	<i>Macaranga peltata</i>	2
19. Mangrove sp.		
20. Unkonwn		3

Table.3: Comparison of the number of nests of different species in the past eight years.

Species	Number of nests			
	2006	2007	2011	2013
Little Cormorant	369	831	1345	385
Indian Shag	1		111	22
Darter			4	4
Pond Heron	736	1115	1711	1068
Black-crowned Night-heron	99	176	651	149
Grey Heron	7	4	9	2
Purple Heron		20		1
Little Egret			4	13
Median Egret			82	86
Total number of nests	1212	2146	3917	1730
No of sites	20	30	28	30
References	(Sashikumar and Jayarajan, 2007)	(Sashikumar and Jayarajan, 2008)	(Sashikumar <i>et al.</i> , 2011)	Present survey

Fig.1: Heronries of Kannur district

S. No.	Place	S. No.	Place	S. No.	Place
1	Arayalthara	15	Lakshipuram	29	Kannur HQ Hospital
2	Ayikkara	16	Mahe	30	Kanjirode-Mayil road
3	Ayikkara road	17	Mahe bridge	31	Chittariparamba
4	Caltex	18	Mambaram	32	Vattipram Sarambi
5	Chalad	19	Mathukoth	33	Thaze Chovva
6	Chalode	20	Moidu bridge	34	Edakkad
7	Chirakuni	21	Nadal	35	Meethale Peedika
8	Echur	22	Naniyoor	36	Mahe Church
9	Ice factory	23	Pettipalam	37	Cherukunu
10	Kanjirode	24	Punnol	38	Pamburuthi
11	Koduvally mangrove	25	Sivapuram	39	AyyapanThodu
12	Koduvally road	26	Stadium	40	Chundangapoyil
13	Kudikimotta	27	Valapattanam	41	Naduthuruthi
14	Kuyali	28	Vattapoyil		

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References

- Ali, S. 1996. *The Book of Indian Birds*. Bombay Natural History Society. 354p
- Ali, S. 2003. *The Book of Indian Birds* (13th Ed.), Oxford University Press, Bombay, 466p.
- King, W. B. 1983. "Seabird Breeding Habits." *Oceanus* **26**(1): 28-35
- McNeil.R. and Leger.C.1987.Nest-Site Quality and Reproductive Success of Early and Late Nesting Double-Crested Cormorants.*TheEilsonBulletin*.**99**(2): 262-267
- Sashikumar, C and Jayarajan, O. (2008) Census of the heronries of north Kerala – 2007. *Malabar Trogon* . **6** (1): 14-19.
- Sashikumar, C and Jayarajan, O. (2007). Census of the heronries of north Kerala. *Malabar Trogon*. **5** (1): 2-8
- Sashikumar, C., Vishnudas, C.K., Raju, S., Vinayan P. A., and V.A. Shebin 2011. Heronries of North Kerala – 2011. *Malabar Trogon* **9** (3)
- Subramanya, S. 1996: Distribution, status and conservation of Indian heronries. *J. Bombay Nat.Hist. Soc.* **93** (3): 459-486.
- Subramanya, S. 2005. Heronries of Kerala. *Malabar Trogon* **3** (1): 2-15.
- Sutherland, W.J. 2006. Ecological census techniques a hand book. Cambridge University Press, New York. Pp 1-406.

A Lesser Cuckoo *Cuculus poliocephalus* from Ernakulam district

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On 3 November 2013, I waited for my usual feathered visitors in my balcony at Ernakulam on Sunday morning. Other than the very common ones nobody seemed interested. The sun too was shying away under the blanket of clouds, no chance of a good photo too, so i gave up. My wife came from the work area rather excited around 7AM, saying there was a Shikra-like bird on the terrace. I took a few photographs of the bird before the crows chased it away. While viewing it on my laptop, it turned out to be something new. After consulting the field guides, I zeroed in on Lesser Cuckoo *Cuculus poliocephalus*, but was not certain. There seem to be very few reported sightings from Kerala (Sashikumar *et al.* 2011). So I referred the photo to others including Jinesh PS, Praveen J and Dipu Karuthedathu. Praveen & Dipu gave a pictorial comparison and confirmed it as a Lesser Cuckoo. I was elated to hear that there are only two prior photographs made of this species from Kerala. There is one photograph from Thekkady by Clement Francis which he published in Sanctuary Asia (Francis 2002, Sashikumar *et al.* 2011) and another one from Nelliampathies which is accepted in OBI, http://orientalbirdimages.org/search.php?Bird_ID=443&Bird_Image_ID=2345&p=19 Other two records from Kerala are sight records.

Some of the characteristics which helps in narrowing down the species are...

- 1) Compared to Indian Cuckoo *C. micropterus*
 - a. Indian Cuckoo does not have a hepatic morph
 - b. The tail seems to be too uniformly barred black and white.
 - c. The prominent barrings in vent (vs almost pale vent with very light barring) is also another pointer towards Lesser.